

AMENDMENTS
In the Claims

Canceled Claims

Claims 33-45 are not designated as being canceled. These claims were the subject of an election/restriction requirement and are now pending in a divisional applications. Therefore, Applicant are not canceling these claims to evidence a decision to dedicate the claims to the public, but because these claims are already the subject of a divisional application cancellation merely facilitates amendment entry.

Claim Status

1.(currently amended) A pharmaceutical composition for treating osteoporosis comprising consisting essentially of at least one zwitterionic phospholipid and at least one bisphosphonate.

1 2.(original) The composition of claim 1, wherein the zwitterionic phospholipid is present
2 in an amount sufficient to reduce GI toxicity of the bisphosphonate and the bisphosphonate
3 is present in an amount sufficient to reduce bone resorption.

1 3.(original) The composition of claim 1, wherein the zwitterionic phospholipid is present
2 in an amount sufficient to reduce GI toxicity of the bisphosphonate and improve
3 bisphosphonate bio-availability when the composition is taken with food and the
4 bisphosphonate is present in an amount sufficient to reduce bone resorption, increase in bone
5 density and/or reduce bone fractures.

1 4.(original) The composition of claim 3, wherein the amount of bisphosphonate is between
2 about 0.1 mg per dose and about 1000 mg per dose and a ratio of bisphosphonate to
3 zwitterionic phospholipid is between about 1:0.1 and about 1:100.

1 5.(original) The composition of claim 3, wherein the amount of bisphosphonate is between
2 about 1 mg per dose and about 500 mg per dose and a ratio of bisphosphonate to zwitterionic

1 phospholipid is between about 1:0.5 and about 1:50.

1 6.(original) The composition of claim 3, wherein the amount of bisphosphonate is between
2 about 2 mg per dose and about 50 mg per dose and a ratio of bisphosphonate to zwitterionic
3 phospholipid is between about 1:1 and about 1:10.

1 7.(original) The composition of claim 3, wherein the amount of bisphosphonate is between
2 about 2 mg per dose and about 20 mg per dose and a ratio of bisphosphonate to zwitterionic
3 phospholipid is between about 1:1 and about 1:5.

1 8.(original) The composition of claim 1, wherein the zwitterionic phospholipid is present
2 in an amount sufficient to reduce GI toxicity of the bisphosphonate and the bisphosphonate
3 is present in an amount sufficient to reduce bone resorption, increase in bone density and/or
4 reduce bone fractures.

1 9.(original) The composition of claim 8, wherein the bisphosphonate is present in an
2 amount between about 0.1 mg per dose and about 1000 mg per dose and a ratio of
3 bisphosphonate to zwitterionic phospholipid is between about 1:0.1 and about 1:100.

1 10.(original) The composition of claim 8, wherein the bisphosphonate is present in an
2 amount between about 1 mg per dose and about 500 mg per dose and a ratio of
3 bisphosphonate to zwitterionic phospholipid is between about 1:0.5 and about 1:50.

1 11.(original) The composition of claim 8, wherein the bisphosphonate is present in an
2 amount between about 2 mg per dose and about 50 mg per dose and a ratio of
3 bisphosphonate to zwitterionic phospholipid is between about 1:1 and about 1:10.

1 12.(original) The composition of claim 8, wherein the bisphosphonate is present in an
2 amount between about 2 mg per dose and about 20 mg per dose and a ratio of

1 bisphosphonate to zwitterionic phospholipid is between about 1:1 and about 1:5.

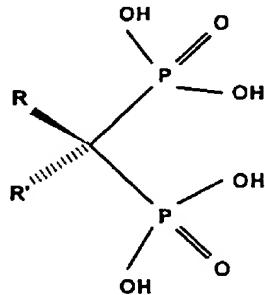
1 13.(original) The composition of claim 1, wherein the zwitterionic phospholipid increases
2 the bio-availability of the bisphosphonate from about 2 to about 20 fold.

1 14.(original) The composition of claim 1, wherein the bisphosphonate is in its zwitterionic
2 form and forms an ionic association complex with the zwitterionic phospholipid.

1 15.(currently amended) The composition of claim 1, further comprising consisting
2 essentially of a colloidal metal, a metal complex or a mixture or combination thereof.

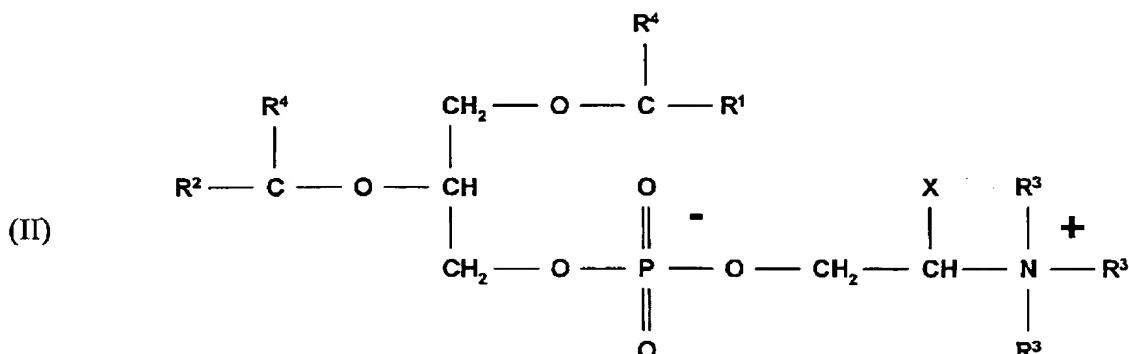
1 16.(original) The composition of claim 1, wherein the bisphosphonate is characterized by
2 the general formula (I):

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4
5
6 (I)
7
8
9



10
11 where R' is H, OH or Cl and R is: (a) an alkyl group having 1 to 6 carbon atoms, optionally
12 substituted with amino, alkylamino, dialkylamino or heterocyclyl, where the alkyl groups in
13 alkylamino and dialkylamino substituents have 1 to 5 carbon atoms and are the same or
14 different in the case of the dialkylamino substituted alkyl groups; (b) a halogen; (c) an
15 arylthio, preferably chlorosubstituted; (d) a cycloalkylamino having 5 to 7 carbon atoms; or
16 (e) a saturated five or six membered nitrogen containing heterocyclyl having 1 or 2
17 heteroatoms.

1 17.(original) The composition of claim 1, wherein the phospholipid is characterized by the
 2 of general formula (II):



10

11 where R₁ and R₂ are saturated or unsaturated substitutions ranging from 8 to 32 carbon
 12 atoms; R₃ is H or CH₃, and X is H or COOH; and R₄ is =O or H₂.

1 18.(original) The composition of claim 1, wherein the bisphosphonate is selected from the
 2 group consisting of 3-amino-1-hydroxypropylidene-1,1-bisphosphonic acid (pamidronate),
 3 4-amino-1-hydroxybutylidene-1,1-bisphosphonic acid (alendronate), N,N-dimethyl-3-amino-
 4 1-hydroxypropylidene-1,1-bisphosphonic acid (mildronate, olpadronate), 1-hydroxy-3- (N-
 5 methyl-N-pentylamino) propylidene-1,(N-methyl-N-pentylamino) propylidene-1, 1-
 6 bisphosphonic acid (ibandronate), 1-hydroxy-2-(3-pyridyl) ethylidene-1,(3-pyridyl)
 7 ethylidene-1, 1-bisphosphonic acid (risedronate), 1-hydroxyethylidene-1,1-bisphosphonic
 8 acid (etidronate), 1-hydroxy-3- (1-pyrrolidinyl) propylidene-1,1-bisphosphonic acid, 1-
 9 hydroxy-2- (1-imidazolyl) ethylidene-1, 1-bisphosphonic(1-imidazolyl) ethylidene-1, 1-
 10 bisphosphonic acid (zoledronate), 1-hydroxy-2- (imidazo [1,2-a] pyridin-3-yl) ethylidene-
 11 1,1-bisphosphonic acid (minodronate), 1- (4-chlorophenylthio) methylidene-1, 1-
 12 bisphosphonic acid (tiludronate), 1- (cycloheptylamino) methylidene-1,1-bisphosphonic acid
 13 (cimadronate, incadronate), 6-amino-1-hydroxyhexylidene-1,1-bisphosphonic acid
 14 (neridronate) and pharmaceutically acceptable salts thereof and mixtures and combinations
 15 thereof.

1 19.(original) The composition of claim 1, wherein the bisphosphonate is selected from the
2 group consisting of risedronate, alendronate, pamidronate and their pharmaceutically
3 acceptable salts and mixtures and combinations thereof.

1 20.(original) The composition of claim 1, wherein the zwitterionic phospholipid is selected
2 from the group consisting of phosphatidyl cholines, phosphatidyl ethanolamines,
3 phosphatidylinositol, phosphatidyl serines sphingomyelin or other ceramides, phospholipid
4 containing oils, and mixtures and combination thereof.

1 21.(original) The composition of claim 1, wherein the zwitterionic phospholipid is selected
2 from the group consisting of phosphatidyl choline (PC), dipalmitoylphosphatidylcholine
3 (DPPC), other disaturated phosphatidyl cholines, lecithin oils and mixture and combinations
4 thereof.

1 22.(currently amended) A pharmaceutical composition, for treating osteoporosis,
2 comprising consisting essentially of a pharmaceutically effective amount of a bisphosphonate
3 to reduce bone resorption and a sufficient amount of a zwitterionic phospholipid to reduce
4 GI toxicity and increase the bio-availability of the bisphosphonate.

1 23.(original) The composition of claim 22, the effective amount of the bisphosphonate
2 comprises between about 0.1 mg per dose and about 1000 mg per dose and the sufficient
3 amount of zwitterionic phospholipid is such that a ratio of bisphosphonate to zwitterionic
4 phospholipid is between about 1:0.1 and about 1:100.

1 24.(currently amended) The composition of claim 22, further comprising consisting
2 essentially of a colloidal metal, a metal complex or mixtures or combinations thereof.

1 25.(currently amended) A pharmaceutical composition comprising a carrier; and a
2 pharmaceutically active component consisting essentially of a pharmaceutically effective

1 amount of a bisphosphonate to reduce bone resorption and a sufficient amount of a
2 zwitterionic phospholipid to reduce GI toxicity and increase the bio-availability of the
3 bisphosphonate, where the phospholipid is in its zwitterionic form and the bisphosphonate
4 is in its zwitterionic form.

1 26.(original) The composition of claim 25, wherein effective amount of the bisphosphonate
2 is between about 0.1 mg per dose and about 1000 mg per dose and the sufficient amount of
3 zwitterionic phospholipid is such that a ratio of bisphosphonate to zwitterionic phospholipid
4 is between about 1:0.1 and about 1:100.

1 27.(currently amended) The composition of claim 25, further comprising wherein the
2 pharmaceutically active component further consisting essentially of a colloidal metal, a metal
3 complex or a mixture or combination thereof.

1 28.(original) The composition of claim 25, wherein the medication is to be taken orally.

1 29.(original) The medication of claim 25, wherein the medication is to be taken orally with
2 food.

1 30.(currently amended) An oral medication for treating osteoporosis comprising an solid
2 object comprising an inert carrier; and a pharmaceutical composition consisting essentially
3 of a pharmaceutically effective amount a bisphosphonate to reduce bone resorption and an
4 amount of a zwitterionic phospholipid sufficient to reduce GI toxicity and increase the bio-
5 availability of the bisphosphonate.

1 31.(original) The medication of claim 30, wherein the effective amount of the
2 bisphosphonate is between about 0.1 mg per dose and about 1000 mg per dose and the
3 sufficient amount of zwitterionic phospholipid is such that a ratio of bisphosphonate to
4 zwitterionic phospholipid is between about 1:0.1 and about 1:100.

1 32.(currently amended) The medicament of claim 30, further comprising wherein the
2 pharmaceutical composition further consisting essentially of a colloidal metal, a metal
3 complex or a mixture or combination thereof.

1 33.(canceled)

2 34.(canceled)

3 35.(canceled)

4 36.(canceled)

5 37.(canceled)

6 38.(canceled)

7 39.(canceled)

8 40.(canceled)

9 41.(canceled)

10 42.(canceled)

11 43.(canceled)

12 44.(canceled)

13 45.(canceled)

1 46.(currently amended) A pharmaceutical composition for treating osteoporosis
2 comprising consisting essentially of at least one zwitterionic phospholipid and at least one
3 bisphosphonate, where the phospholipid is in its zwitterionic form and the bisphosphonate
4 is in its zwitterionic form.

1 47.(currently amended) A pharmaceutical composition, for treating osteoporosis,
2 comprising consisting essentially of a pharmaceutically effective amount of a bisphosphonate
3 to reduce bone resorption and a sufficient amount of a zwitterionic phospholipid to reduce
4 GI toxicity and increase the bio-availability of the bisphosphonate, where the phospholipid
5 is in its zwitterionic form and the bisphosphonate is in its zwitterionic form.

1 48.(currently amended) An oral medication for treating osteoporosis comprising an solid
2 object comprising an inert carrier; and a pharmaceutical composition consisting essentially
3 of a pharmaceutically effective amount a bisphosphonate to reduce bone resorption and an
4 amount of a zwitterionic phospholipid sufficient to reduce GI toxicity and increase the bio-
5 availability of the bisphosphonate, where the phospholipid is in its zwitterionic form and the
6 bisphosphonate is in its zwitterionic form.